

## CLAIMS

1. (Currently Amended) A method of forming a patterned magnetic ~~patterning~~ a recording medium comprising:

selectively thermally coupling ~~a said~~ recording medium and a heat source to alter a chemical composition in selected areas of ~~the said~~ recording medium, said selected areas forming a predetermined pattern; wherein altering said chemical composition in said selected areas transforms said selected areas from paramagnetic to ferromagnetic.

Claim 2 (Cancelled)

3. (Currently Amended) The method according to claim 2 1 wherein said predetermined pattern comprises one of concentric circles and parallel tracks.

Claims 4-9 (Previously Withdrawn)

10. (Original) The method according to claim 1, further comprising: depositing said recording medium on a substrate.

11. (Original) The method according to claim 1, wherein said selectively thermally coupling comprises selectively directing an incident thermal wave from said heat source to said recording medium to form a direct thermal coupling between said heat source and said recording medium.

12. (Original) The method according to claim 1, wherein said medium comprises cobalt and chromium.

13. (Currently Amended) The method according to claim 10 ~~1~~, wherein said substrate comprises one of glass, silicon, quartz, sapphire, AlMg and a ceramic substrate.

14. (Original) The method according to claim 1, wherein said heat source comprises one of a near-field thermal probe and a nanoheater.

15. (Original) The method according to claim 1, wherein said heat source physically contacts said recording medium.

16. (Original) The method according to claim 1, where said heat source is physically separated from said recording medium.

17. (Currently Amended) The method according to claim 1, wherein said chemical composition is altered by ~~one of interfacial mixing, interfacial reactions,~~ selective oxidation ~~structural relaxation, phase segregation and phase change.~~

Claim 18 (Cancelled)

Claim 19 (Previously Withdrawn)

Claim 20 (Cancelled)

Claim 21 (Previously Withdrawn)

22. (Original) The method according to claim 1, wherein said selectively thermally coupling comprises selective near-field radiative coupling of blackbody radiation from said heat source to said recording medium.

23. (Original) The method according to claim 1, wherein said medium comprises  $\text{Co}_x \text{Cr}_{1-x}$ , where  $x$  is in a range from 0.63 to 0.75.

24. (Original) The method according to claim 1, wherein thermal energy is transferred to said medium by conductive heating.

25. (Original) The method according to claim 1, wherein thermal energy is transferred to said medium by radiative heating.

Claims 26-41 (Previously Withdrawn)